PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70)

Applicant's or agent's file reference Con Serv Broker	FOR FURTHER ACTION	See Form PCT/PEA/416
International application No. PCT/GB2004/002471	International filing date *(day/month/year)* 10.06.2004	Priority date *(day/month/year)* 10.06.2003

International Patent Classification (IPC) or national classification and IPC
H04L29/08

Applicant
SYMBIAN SOFTWARE LIMITED et al

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.

2. This REPORT consists of a total of 8 sheets, including this cover sheet.

3. This report is also accompanied by ANNEXES, comprising:

    a. ☒ *sent to the applicant and to the International Bureau)* a total of 3   sheets, as follows:

       ☒ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).

       ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.

    b. ☐ *(sent to the International Bureau only)* a total of (indicate type and number of electronic carrier(s))   , containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

    ☒ Box No. I   Basis of the opinion

    ☒ Box No. II   Priority

    ☐ Box No. III Non-establishment of opinion with regard to novelty, inventive step and industrial applicability

    ☐ Box No. IV Lack of unity of invention

    ☒ Box No. V   Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

    ☐ Box No. VI Certain documents cited

    ☒ Box No. VII Certain defects in the international application

    ☒ Box No. VIII Certain observations on the international application

Date of submission of the demand 11.04.2005	Date of completion of this report 24.10.2005

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INTERNATIONAL PRELIMINARY REPORT
ON PATENTABILITY

International application No.
PCT/GB2004/002471

Box No. I   Basis of the report

1. With regard to the **language**, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

   ☐ This report is based on translations from the original language into the following language , which is the language of a translation furnished for the purposes of:

   ☐ international search (under Rules 12.3 and 23.1(b))
   ☐ publication of the international application (under Rule 12.4)
   ☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the **elements*** of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

   Description, Pages

   1-15   as originally filed

   Claims, Numbers

   1-22   received on 11.05.2005 with letter of 10.05.2005

   Drawings, Sheets

   1/2, 2/2   as originally filed

   ☐ a sequence listing and/or any related table(s) - see Supplemental Box Relating to Sequence Listing

3. ☐ The amendments have resulted in the cancellation of:
   ☐ the description, pages
   ☐ the claims, Nos.
   ☐ the drawings, sheets/figs
   ☐ the sequence listing *(specify)*:
   ☐ any table(s) related to sequence listing *(specify)*:

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).
   ☐ the description, pages
   ☐ the claims, Nos.
   ☐ the drawings, sheets/figs
   ☐ the sequence listing *(specify)*:
   ☐ any table(s) related to sequence listing *(specify)*:

   *   *If item 4 applies, some or all of these sheets may be marked "superseded."*

Box No. II   Priority

1. ☒   This report has been established as if no priority had been claimed due to the failure to furnish within the prescribed time limit the requested:

   ☒ copy of the earlier application whose priority has been claimed (Rule 66.7(a)).

   ☐ translation of the earlier application whose priority has been claimed (Rule 66.7(b)).

2. ☐   This report has been established as if no priority had been claimed due to the fact that the priority claim has been found invalid (Rule 64.1). Thus for the purposes of this report, the international filing date indicated above is considered to be the relevant date.

3. Additional observations, if necessary:

Box No. V   Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Yes:	Claims	1-22
	No:	Claims	
Inventive step (IS)	Yes:	Claims	
	No:	Claims	1-22
Industrial applicability (IA)	Yes:	Claims	1-22
	No:	Claims	

2. Citations and explanations (Rule 70.7):

   see separate sheet

Box No. VII   Certain defects in the international application

The following defects in the form or contents of the international application have been noted:

see separate sheet

Box No. VIII   Certain observations on the international application

The following observations on the clarity of the claims, description, and drawings or on the question whether the claims are fully supported by the description, are made:

see separate sheet

INTERNATIONAL PRELIMINARY
REPORT ON PATENTABILITY
(SEPARATE SHEET)

International application No.

PCT/GB2004/002471

Re Item V.

The examining division thanks for the detailed reply and regrets that it is unfortunately not possible to send a further written opinion.

1   INDEPENDENT CLAIM 1

1.1   The characterising part of the claim was amended by the following features:

- the naming convention identifies a service as a service from a particular vendor
  This feature is a non-technical feature and can not be taken into account when judging technical differences over the prior art. A structured naming convention was already disclosed in D1 and D2.

- the naming convention identifies the service without specifying the connection point address
  This feature is well known from the prior art (D1, D2) as the DNS-like service naming conventions used therein do not include port numbers or the like. In fact, port numbers are only returned as the result of a resolution process (see e.g. D1, page 3 of printout, right column, description of SREP content), they are not part of the service name request.

1.2   Furthermore, independent claim 1 was amended by changing the characterisation of the method **from** being one for connecting a client on a first computing device to a server running on a second computing device **to** being one for enabling a client on a first computing device that is connected to a second computing device to use a service on that second computing device.

The applicant brings forward the argument that D1/D2 solve a different problem as - according to the applicant - the main problem ("hard part") of D1 and D2 is the identification of the address of a serving node. In contrast, the client specified by the application is said to already know the address of the node implicitly. The applicant supports this point of view by original claim 3 (only well known port number must be known in order to contact the service broker).

Unfortunately, the examining division can not subscribe to this point of view and the arguments given can not change the assessment of the claims.

There is no feature in claim 1 that is related to the client's knowledge of the address of a serving node. Furthermore, there is no other technical feature which is not known from the prior art.

As pointed out on page 3, line 10 to 12, the client may be connected to the service broker using several options, including local links or remote links via data network connections. The sheer fact that a client is connected using one of these options, however, do not disclose and does not justify the assumption of an implicit knowledge of an address of a potential counterpart.
The opposite seems to be true: In order for the application to work at all the person skilled in the art must assume that an address discovery process must also take place in the context described in the application, e.g. one discovery process as described in D1/D2.

Reading claim 3 in light of the description (page 1, line 21 to 30). the person skilled in the art would conclude that the client node only needs to know a well known port for the service broker, but does not need to know a port in advance for further services running on that node. Claim 3 can not be interpreted in a way that the client already knows an IP address.

Shortly summarized: The objective technical problem solved by the application is the provision of a port number to access a service. A kind of discovery procedure for the network address of the service broker must take place. D1/D2 in fact disclose the provision of a port number required to access a service. They additionally disclose a discovery procedure.

D1/D2 must therefore (a) be regarded as relevant prior-art documents; they are (b) also applicable to a method for enabling a client on a first computing device that is connected to a second computing device to use a service on that second computing device

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Consequently, the present application does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 1 does not involve an inventive step in the sense of Article 33(3) PCT.

The same reasoning applies, mutatis mutandis, to the subject matter of the corresponding independent claim 12. Consequently, the present application also does not meet the criteria of Article 33(1) PCT, because the subject-matter of claim 12 does not involve an inventive step in the sense of Article 33(3) PCT.

The assessment of the dependent claims is the same as is the first written opinion provided to the applicant.

Re Item VII.

Independent claims 1 and 12 are not in the two-part form in accordance with Rule 6.3(b) PCT, which in the present case would be appropriate, with those features known in combination from the prior art (document D1, D2) being placed in the preamble (Rule 6.3(b)(I) PCT) and with the remaining features being included in the characterising part (Rule 6.3(b)(ii) PCT).

Contrary to the requirements of Rule 5.1(a)(ii) PCT, the relevant background art disclosed in the documents D1-D3, D6-D8 and D10 is not mentioned in the description, nor are these documents identified therein.

Re Item VIII.

As explained below, some of the features in the apparatus claims 12-22 to relate to a method of using the apparatus rather than clearly defining the apparatus in terms of its technical features. The intended limitations are therefore not clear from this claim, contrary to the requirements of Article 6 PCT.
As an example, claim 12 specifies that " a server that **connects**", "a service broker to which a service **registers** and which **receives** a message ..."

Furthermore, claim 1 and claim 12 specify their subject matter by means of a disclaimer

(without specification of a connection point address) contrary to the requirements of Article 6 PCT.

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CLAIMS

1. A method of enabling a client, running on a first computing device that is connected to a second computing device, to use a service on that second computing device, comprises the steps of:

    (a) a service, installed on the second computing device, registering its published name with a service broker on that second computing device;

    (b) the client sending a message to the service broker specifying the name of the service;

wherein the published name of the service conforms to a structured naming convention that uniquely identifies the service as a service from a particular vendor, but without specifying the connection point address of that service, to enable the service broker to start up the service without the risk of a clash.

2. The method of Claim 1 in which the structured naming convention uses reversed domain information.

3. The method of Claim 1 in which the service broker uses a single well-known port number address so that the client needs only this well known port number to send a message to the service broker.

4. The method of Claim 1 in which the service obtains a connection point and informs the service broker of the connection point address and the service broker then informs the client of the connection point address.

5. The method of Claim 4 in which the service broker informs the client of the connection point address and the client then uses that address in communicating directly with the server.

6. The method of Claim 4 in which the connection point address is a port number.

7.   The method of Claim 4 in which, if a service is required more than once, the server providing the service will not be re-started, but instead the service broker uses cached address information.

8.   The method of Claim 1 in which, when services register with the service broker, they register a version number to indicate the version of the service that they are providing.

9.   The method of Claim 8 in which the client can request a specific version of a named service or it can omit the version, in which case the service broker will start the highest version available of the named service.

10.   The method of Claim 1 in which the service broker enables multiple services installed on a single, second computing device to serve one or more external clients that are PCs or other computers connected by a local link such as cable, Infra-Red or short distance radio (such as Bluetooth) or by a remote link such as a network data connection.

11.   The method of Claim 1 in which the service broker provides authentication information such that only authenticated external clients can access services.

12.   A computing device that is connected to a first computing device, the computing device comprising (a) a server and (b) a service broker to which a service installed on the computing device registers its published name and which receives a message sent from the first computing device, the message specifying that published name;

    wherein the published name of the service conforms to a structured naming convention that uniquely identifies the service as a service from a particular vendor, but without specifying the connection point address of that service, to enable the service broker to start up the service without the risk of a clash.

13.   The device of Claim 12 in which the service broker is programmed such that the structured naming convention uses reversed domain information.

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14. The device of Claim 12 in which the service broker uses a single well-known port number address.

15. The device of Claim 12 in which the service obtains a connection point and informs the service broker of the connection point address and the service broker then informs the client of the connection point address.

16. The device of Claim 15 in which the service broker informs the client of the connection point address and the client then uses that address in communicating directly with the server.

17. The device of Claim 15 in which the connection point address is a port number.

18. The device of Claim 15 in which, if a service is required more than once, the server providing the service will not be re-started, but instead the service broker uses cached address information.

19. The device of Claim 12 in which, when services register with the service broker, they register a version number to indicate the version of the service that they are providing.

20. The device of Claim 19 in which the client can request a specific version of a named service or it can omit the version, in which case the service broker will start the highest version available of the named service.

21. The device of Claim 12 in which the service broker can serve external clients that are PCs or other computers connected by a local link such as cable, Infra-Red or short distance radio (such as Bluetooth) or by a remote link such as a network data connection.

22. The device of Claim 12 in which the service broker provides authentication information such that only authenticated external clients can access services.